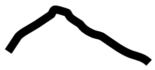
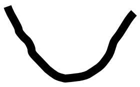
Comparison of univariate distribution

1. Shape of the distribution: Make a chart – `CROSSTAB / CELL COU`

symmetric	asymmetric
	
	

2. Central tendency: ….`\STA MEA MEDIAN MODE`

Binary Variable	Qualitative variable	Quantitative variable with reasonable number of values	Quantitative variable with many values – continuous
Proportion of a single category	*Mode*	*Mean, Median, Mode*	*Mean (Median)*

Vocabulary

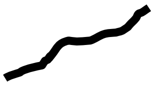
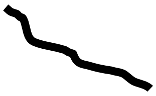
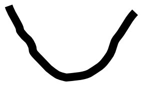
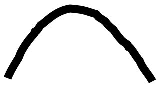
The same - equal	*Similar, close*	*Different: higher, lower*

3. Dispersion: …`\STA VAR`

Binary Variable	Qualitative variable	Quantitative variable with reasonable number of values	Quantitative variable with many values – continuous
-	*Frequency of dominant category*	*Variance* *Standard Deviation* *Min/MAX*	*Variance* *Standard Deviation* *Min/MAX*

Comparison of bivariate distribution

1. Shape of the dependency = shape of regression function

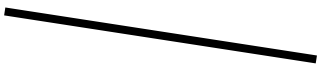
lack of dependency	increasing	decreasing	u-shape	Parabolic	irregular
					

Y does not dependent on X	*Y positively depends on X; E(Y|X) is increasing function of X*	*Y negatively depends on X; E(Y|X) is decreasing function of X*	*Y is curvi-linearly dependent on X*	*Y is curvi-linearly dependent on X*	*Y depends on X in nonregular way*

2. Strength of dependency in the 1st type regression (of means)

In A population Y depends on X: {*stronger/weaker/similarly*} than in population B, as measured by eta^2 coefficient.

3. Linear regression – type of dependency

lack of dependency: b=0	increasing b > 0	decreasing b< 0
		

Y and X are not linearly correlated	*Y and X are positively linearly correlated*	*Y and X are negatively linearly correlated*

4. Linear regression – strength of dependency

In A population Y and X are {*stronger/weaker/similarly*} linearly correlated than in population B, as measured by Pearson R^2 (R) coefficient.

5. To what degree 1st type regression of Y in regard to X has linear form

In A population regression of means of Y in regard to X is {*more/less/similarly*} linear than in population B, as measured by R^2/eta^2 ratio.

Comparison of multivariate models

Goodness of fit of the model –strength of multiple linear dependency

- In A population Y is {*stronger/weaker/similarly*} linearly dependent on X_1, X_2, X_3, X_4 than in population B, as measured by multiple correlation coefficient. R^2;
- In population A multiple linear model predicts (*better/worse/similarly*) dependent phenomenon than in B; as shown by multiple correlation coefficient R^2
- In population A phenomenon Y is (*stronger/weaker/similarly*) determined by predictors X_1, X_2, X_3, X_4 than in population B, as shown by multiple correlation coefficient. R^2

Direction of dependency of dependent variable on each of predictor

In linear model for population A phenomenon Y depends on X_i (*positively/negatively*) while in model for population B Y depends on X_i (*positively/negatively*) [compare signs of B or beta for each predictor]

Relative weights of predictors in determining dependent variable predictions

Relative weight of X_i in the linear model determining predictions of phenomenon Y is (*higher/lower/similar*) in population A than in population B [compare values of beta for each predictor]

Exploratory power of predictors

For population A predictor X_i accounts for (*more/less/similar*) part of variance of Y explained by the model than for population B, as shown by R^2 increase caused by introducing X_i to the linear model of Y [compare R^2 increments for all X_i under fixed order of introducing them to equations)

Outline of a table summarizing results (for both populations)

	Final model		Successive models	
predictor	B	beta	R^2	R^2 increase
Gender [0=female, 1=male]	1115	0,415	17,6%	17,6%
Father's education level [1-5]	5	0,004	18,1%	0,5%
Place of residence [0=rural, 1=urban	-27	-0,008	18,1%	0,0%
Respondent's education level [years of schooling]	70	0,154	20,0%	1,9%

Chart representing explanatory power of the whole model and individual predictors (for both populations)